REMARKS

This request for reconsideration is filed in response to the rejection mailed January 11, 2007. For the following reasons, this application should be allowed and the application passed to issue.

Claims 1-6 are pending in this application. Claims 1-6 have been rejected.

Objection to the Specification

The specification is objected to because the Office Action alleged that the equation $90 < Y + 50.5X < 100$ is not understood. The Office Action pointed out that when Y and X are at the highest values the disclosed relationship is not met. This objection is traversed, and reconsideration and withdrawal thereof respectfully requested.

The PTO has apparently misunderstood the teaching in the specification. The Office Action mistakenly asserted that the highest value of Y is 1.0 J/g. However, 1.0 J/g is the endothermic amount for only the range of 20 to 45 °C, **not** the range of 20 to 100 °C. This relationship is clearly described by the equation and would have been readily understood by one of skill in this art in light of the teaching in the specification.

Claim Rejections Under 35 U.S.C. § 112

Claims 1-6 were rejected under 35 U.S.C. § 112, first paragraph, because the specification is allegedly not enabled for the paraffin wax over the entire claimed range of molecular weight and carbon rod densities. The Office Action averred that the claimed invention would cause undue experimentation by one of ordinary skill in this art. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

One of ordinary skill in this art would have recognized that the full scope of the claims is enabled. Measurements of density, and endothermic properties via DSC are well known and are common measurement and analysis techniques that are well within the abilities of one of skill in

the art. Further, the Office Action has not fulfilled the requirements of asserting that the invention is not enabled. The PTO has the burden of establishing that the invention is not enabled. However, the PTO has improperly shifted the burden to Applicants to prove that the invention is enabled. The data in Table 1, shows that positive electrode current collectors that meet the claim limitations have an unexpected improvement in discharge performance. The Office Action appeared to assert that the properties of the positive current collectors are unpredictable. However, such unpredictability, rather than supporting the Office Action's assertion of lack of enablement, actually supports Applicants' position that the claimed invention is not obvious.

Claims 2 and 3 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement because Y and X have different units and, therefore, are not combinable. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

First, there is no requirement that the units in a claimed relationship must be the same. Second, Applicants can be their own lexicographer and define claim limitations in any manner that would be understood by one of skill in this art. The claimed relational expression is clear and definite to one of skill in the art, and the units for Y and X are defined. Contrary to the Office Action's assertion, the numerical values of X and Y can be summed and as long as the sum of Y and 50.5X fall between 90 and 100, the limitation is met. Further, Applicants have discovered that positive electrode current collectors for a manganese dry battery that meet the claimed relational expression and the other limitations provide unexpectedly improved discharge performance and voltage drop, as explained in the present specification.

Claims 2 and 3 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement because when Y and X are at the highest values the claimed relationship is allegedly not met. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The PTO has clearly misunderstood the claim limitations. The Office Action mistakenly asserted that the highest value of Y is 1.0 J/g. However, 1.0 J/g is the endothermic amount for **only the range of 20 to 45 °C**, not the claimed range of 20 to 100 °C. The relationship described by the equation would be readily understood by one of skill in this art in light of the claim considered as a whole.

Claims 1-6 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite because the limitation "endothermic amount" is not understood by the PTO. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Differential scanning calorimetry (DSC) is an established analytical technique and one of ordinary skill in the art would have readily recognized that "endothermic amount" is the amount of thermal energy (Joules) absorbed by the sample as the sample temperature is raised from 20 to 100 °C divided by the sample weight.

The Office Action additionally questioned the significance of 1.0 J/g. The present inventors have discovered that positive electrode current collectors with an endothermic amount of more than 1.0 J/g obtained by DSC at 20 to 45 °C tend to elute more wax from the carbon rod at 45 °C inducing the sealing agent to melt, as explained in the specification in the paragraph bridging pages 4 and 5. 45 °C is significant because it is the temperature at which the manganese dry batteries are stored to evaluate high temperature storage.

Applicants submit that the claims fully comport with the requirements of 35 U.S.C. § 112.

Claim Rejections Under 35 U.S.C. § 103

Claims 1 and 4-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nobuaki (JP 3-297063) in view of Nagasawa et al. (U.S. Pat. No. 4,157,317). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

The Office Action asserted that Nobuaki discloses impregnating a carbon rod in a manganese dry cell with a hydrocarbon having a molecular weight of 300 to 500. The Office Action acknowledged that Nobuaki does not teach the density of the carbon rod. The Office Action alleged that Nagasawa et al. disclose that a carbon rod having a density within the claimed range provides sufficient strength and allows gases to escape, thus preventing cracking. The Office Action considered the claimed endothermic amounts to be an intrinsic property of the paraffin wax having a molecular weight of 300 to 500. The Office Action further advised Applicants to prove all of the different combinations of the prior art carbon rod density and waxes would not provide an endothermic amount of less than 1.0 J/g.

Nobuaki and Nagasawa et al., whether taken alone or in combination, do not suggest the claimed positive electrode current collector. The PTO's apparent attempt to place the burden of **disproving all the prior art examples** on Applicants is improper. If the PTO maintains this position, Applicants request the PTO point out on what basis such a requirement can be made. Table 1 of the present specification proves that waxes having the claimed molecular weight and carbon rods with the claimed density do not inherently produce positive electrode current collectors with the claimed endothermic amount. It is not necessary, when rebutting an obviousness rejection, to prove that all the prior art examples do not possess the claimed property. Rather, the PTO has the burden of establishing a prima facie case of obviousness, and if the Office Action does so, then Applicants have the burden of rebutting the conclusion of

obviousness. Applicants do not have the burden of proving all the prior art examples do not possess the claimed property.

Furthermore, claims are to be considered as a whole, and when all the limitations are considered as a whole, the claimed positive electrode current collector would not have been obvious. In particular, the cited references do not suggest the unexpected improvement in discharge performance provided by positive electrode current collectors of the present invention, as illustrated in Table 1.

Obviousness can be established only by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Kotzab,* 217 F.3d 1365, 1370 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Jones,* 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992); *In re Fine,* F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). There is no suggestion in Nobuaki and Nagasawa et al. to substitute a wax wherein an endothermic amount of the paraffin wax or the microcrystalline wax obtained by differential scanning calorimetry at 20 to 45°C is not more than 1.0 J/g, and a carbon rod having a density of 1.55 to 1.75 g/cm^3 into the current collector of Nobuaki, as required by claims 1 and 6.

The only teaching of a positive current collector with the claimed wax and carbon rod density is found in Applicants' disclosure. However, the teaching or suggestion to make a claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The PTO has apparently relied on improper hindsight reasoning in reaching the conclusion of obviousness.

The dependent claims are allowable for at least the same reasons as the respective independent claims from which they depend, and further distinguish the claimed positive electrode current collector.

In view of the above remarks, Applicants submit that this case should be allowed and passed to issue. If there are any questions regarding this response or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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